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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/050,513

01/16/2002

Ali Adibi

Q096

7692

7590

12/07/2004

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EXAMINER

TSAL, H JEY

ART UNIT

PAPER NUMBER

2812

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/050,513

Applicant(s)

ADIBI ET AL.

Examiner

H.Jey Tsai

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

***Election/Restrictions***

This application contains claims drawn to an invention nonelected claims. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Because the funnel shape in two dimensions ***orthogonal*** to the waveguide axis is not described in the specification.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 11-21 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Deliwala 2003/0039430.

Deliwala discloses a tapered optical coupling comprising:

a substrate 9012, see figures 82-86 and para. 451-474, or fig. 72, 66,

a slab waveguide 9014 on or in the substrate 9012, para. 451-453,

a two dimensional funnel-shaped termination 9034/9024 (horn and channel) on or in said substrate 9012 and optically coupled to the waveguide 9014.

a photonic crystal 9022 and photonic crystal is optically coupled to slab waveguide 9014, para. 453, 455, 456,

slab waveguide 9014 is integral with photonic crystal 9022,

funnel-shaped termination 9034/9024 is optically coupled to optic fiber, para. 452,

funnel-shaped termination is formed by shadow deposition (no patentable weight given on process limitation see MPEP 2173.05(p)),

funnel-shaped termination composed of material having an index of refraction approximately matching the slab waveguide, para. 464+, 456, 354, 165,

funnel-shaped termination is composed of polycrystalline silicon, para. 448, 409, 404,

slab waveguide is composed of GaAs, para. 120, 168,

funnel-shaped termination is a half- funnel shape (one or two dimensional waveguide, para.455-456),

funnel-shaped termination is a full-funnel shape (three dimensional waveguide, para. 457),

funnel-shaped termination comprises a surface for optical coupling inclined with respect to said substrate (two or three dimensional waveguide), figs. 82, 84-85 and 86.

Claims 11, 14, 18 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Meade et al. 5,526,449.

Meade et al. discloses a tapered optical coupling comprising:  
a substrate 102, see figure 12, col. 10, lines 23+,  
a slab waveguide 110 on or in the substrate 102,  
a two dimensional funnel-shaped termination 120 on or in said substrate 102 and optically coupled to the waveguide 110/114,  
funnel-shaped termination 120 is optically coupled to optic fiber 112,  
slab waveguide 110 is composed of GaAs 202, col. 7, lines 60+,  
funnel-shaped termination 120 is a full-funnel shape.

Applicant's arguments filed Sept. 24, 2004 have been fully considered but they are not persuasive. Deliwala clearly teaches at para. 453 and fig. 82 that horn (funnel shape) termination 9016/9034/9034 forms with more than one sides and orthogonal to the waveguide axis, and also can be seen in figs. 72, funnel shape 7206/7220 in two dimension orthogonal to the waveguide axis and in fig. 66, funnel shape in two dimension orthogonal to the waveguide axis 6507/6514. Meade et al. also clearly teaches at fig. 7a, a two dimensional funnel shape 208 orthogonal to the waveguide axis and at fig. 12 a two dimensional funnel shape 112/114/116.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

**Any inquiry of a general nature or clerical matters or relating to the status of this application or proceeding should be directed to the Group customer service whose telephone number is 571-272-1626 and Fax number (703) 872-9306.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Jey Tsai whose telephone number is (571) 272-1684. The examiner can normally be reached on from 7:00 Am to 4:00 Pm., Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (571) 272-1679. The fax phone number for this Group is (703) 872-9306.

hjt  
11/28/04



H. Jey Tsai  
Primary Examiner  
Patent Examining Group 2800